

### AI and DS Department D16AD

### Mini project Synopsis Document

### Group No: 05

| **1.** | **Name of the Project** | **Smart Home Energy Monitoring System** |
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| **2.** | **Objective/ Vision** | **Objective**:  The objective of the Smart Home Energy Monitoring System app is to empower homeowners with real-time insights into their energy consumption patterns and provide them with tools to effectively manage and optimize their energy usage. By monitoring and analyzing energy consumption data, the app aims to promote energy efficiency, reduce electricity bills, and contribute to environmental sustainability.  **Vision**:  The vision of the Smart Home Energy Monitoring System app is to create a smarter and more sustainable future by enabling individuals to make informed decisions about their energy consumption. Through the app's features and functionalities, it seeks to foster a culture of energy consciousness, encouraging users to adopt greener practices and contribute to a more environmentally responsible society. |
| **3.** | **Users of the System** | * Homes * Offices |
| **4.** | **Operational features** | * Real-Time Energy Monitoring * Historical Usage Data * Energy Efficiency Tips * Energy Usage Notifications * Cost Estimation |
| **5.** | **Technologies to be used** | * Machine Learning * Internet of Things * Mobile App Development. |
| **6.** | **Tools to be Used** | * 3 inch display * Wifi module * Temperature, Humidity, CO2, Sensors * RC coil in Current Measuring Circuit |
| **7.** | **Dataset Link** | * Readings of sensors to be collected once a working model is prepared |
| **8.** | **AI part used in the system** | * Machine Learning for anomaly detection * Time series analysis for predicting the future consumption * Data Analysis and Visualization |
| **9.** | **Sustainability goals achieved** | * Good Health and Well-Being * Affordable and Clean Energy * Sustainable Cities and Communities * Responsible Consumption and Production * Climate Action |

**Mentor’s Signature:**

**Group Members(Roll.no & Names):**

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